ZKPT531 IP Camera User Manual

Version: V1.1

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Advanced Biometric and RFID Solutions

About This Manual

This document describes functions, installation procedure, and access mode of the ZKPT531 IP Camera.

Important Claim

Firstly, thank you for purchasing this terminal, before use, please read this manual carefully to avoid the unnecessary damage! The company reminds you that the proper user will improve the use affect and authentication speed.

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Due to the constant renewal of products, the company cannot undertake the actual product in consistence with the information in the document, also any dispute caused by the difference between the actual technical parameters and the information in this document. Please forgive any change without notice.

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1 Foreword

1.1 Instruction

The **ZKPT531 IP Camera** is developed by using the most up-to-date technologies. It is equipped with a built-in lens and high-performance digital signal processor (DSP). It is a high-tech surveillance product that integrates the ball cradle head and the digital encoder. The ZKPT531 adopts the full digital control and a compact and simple design and minimizes the connections between system components. This improves the system reliability and facilitates installation and maintenance. The ZKPT531 is driven by the precision motor and features stable operation, quick response, and accurate positioning. It can implement arbitrary positioning and continuous tracing and scanning, thus realizing Omni-directional surveillance without blind spots. The ZKPT531 can automatically adapt to the brightness of the environment and changes in the distance of objects. It has the power-off memory function. After the ZKPT531 is started, it automatically recovers the working state before the power-off, which improves the security and reliability of the system. The ZKPT531 has a built-in web server, which allows users to use computers for video surveillance on TCP/IP-based networks. The centralized surveillance end and system platform facilitates the real-time surveillance and remote control of front-end cameras.

The multimedia processor is a high-performance chip that integrates video/audio collection, compression, and transmission functions. The standard H.264 encoding algorithm ensures a clearer and smoother video transmission effect.

The ZKPT531 is applicable to small-, medium-, and large-sized enterprises, chain stores, factories, families, and any scenario where the remote network video transmission and surveillance are required. It is easy to install and operate.

Before using the **IP Camera**, please check the package against the following list to see whether accessories are complete. If any accessory is missing, contact the distributor in time.

- **List of items**

Name	Quantity
IP Camera	1
Support	1
Power adapter	1
Network cable	1
Disk	1
Antenna	1

- **Statement**

In the following descriptions, the following conventions are used:

IP Camera: ZKPT531 IP Camera.

PC: personal computer.

Click: Left-click the mouse once.

Double-click: Left-click the mouse for twice.

According to factory settings of the ZKPT531 IP Camera, the default administrator name is "admin" and the password is also "admin".

The default **IP address** is "192.168.1.88". The default **http port** is "80".

1.2 Product Overview

The **IP Camera** integrates the network and web service functions. It can transmit produced videos to any place through the network and you can view the live videos only with a web browser.

The **IP Camera** can be used in a series of places, such as large stores, schools, factories, and families.

The basic function of the **IP Camera** is to transmit remote video data through the networks. By using the H.264 hardware compression technology, the **IP Camera** can transmit high-quality video images on the local area networks (LANs) and wide area networks (WANs) at a speed up to 25 frames per second.

The **IP Camera** transmits video data based on the TCP/IP protocol. The built-in web server of the **IP Camera** supports the Internet Explorer. Therefore, you can use the network to manage and maintain your devices, thus making it easy to implement remote configuration, startup, and firmware upgrade.

	Before installing the **IP Camera**, check the package against the following list to see whether accessories are complete. If any accessory is missing, contact the distributor in time.

1.3 Features

- Full digital design, power-off protection of data, and automatic recovery of pre-power off operations after the power supply is restored.
- Integrated design, compact structure, and high reliability.
- Precision motor driven, stable operation, quick response, and accurate positioning.
- Compact mechanical driver device, 355º horizontal revolving angle, and 0-120º vertical revolving angle.
- Slow revolving at 0.5º per second without causing jitter of images.
- 8 Storage space for eight preset positions.
- Powerful high-speed video protocol processor.
- High-sensitivity and high-definition (HD) CMOS sensor.
- 1 megapixel.
- 5~10-meter infrared night vision function.
- Optimized H.264 video compression algorithm and implementation of HD image transmission on narrow band and wide band.
- Multi-level user management and password setting.

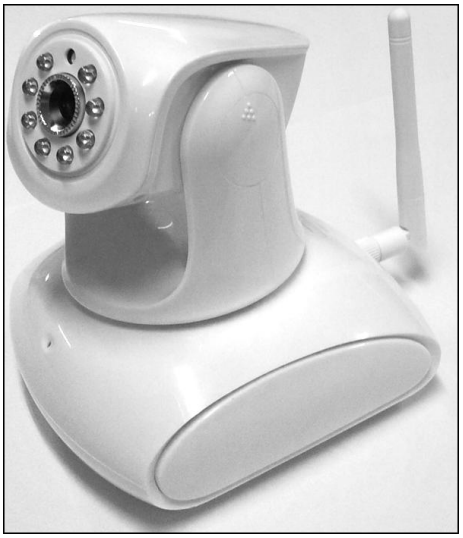
- Supporting multiple browsers, including IE and Firefox browsers.
- Supporting wireless networks (Wi-Fi/802.11/b/g/n).
- Supporting the dynamic DNS (DDNS).
- Maximum support 32G TF card local storage, please use original brand TF card (*Kingston, SanDisk, SAMSUNG, SONY* and *TOSHIBA* are supported)
- Mobile surveillance and alarm.
- Supporting bi-directional audio surveillance.
- Supporting image capturing.
- Supporting browsing with mobile phones.
- Supporting the log function.
- Supporting multiple network protocols: HTTP/UDP/SMTP/FTP/DHCP/DNS/DDNS/NTP/UPNP/ONVIF/P2P.

1.4 Specification

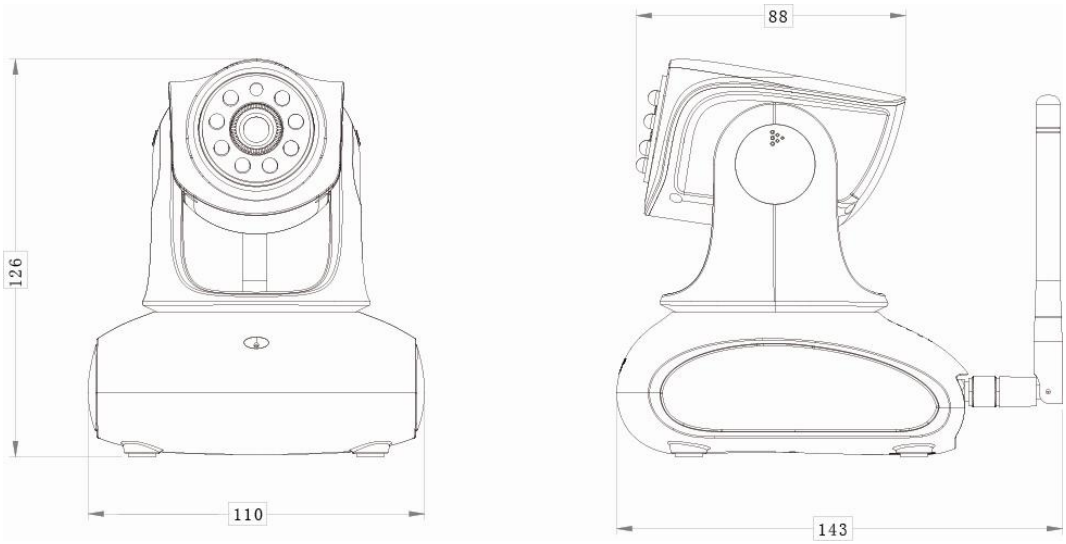
	Product Name	PT Network Camera
Camera Performance	Image Sensor	1/4"CMOS
	Image Resolution	1280 * 720
	Day/Night Mode	Automatically IR-cut filter
	Lens Type	3.6mm
	Minimum Illumination	0.4LUX / F2.0
	IR Distance	5~10 meters
Video & Audio	System	Linux
	Video Compression	H.264, MJPEG
	Audio Compression	G726/G711
	Image Streaming	32Kbits/s~6144Kbits/s settable
	Video Resolution	**Main Stream**: 1280x720. **Second Stream**: 640x352. **Third Stream**: 320x176.
	Video Frame Rate	**PAL**: 1-25 fps. **NTSC**: 1-30fps.
	Image Setting	Brightness, contrast, saturation, sharpness , Shutter
Function & Port	Audio Input	Built-in microphone 1*audio jack input
	Audio Output	Build-in speaker 1*audio jack output
	Reset	Yes
	Motion Detection	4 Motion detection areas settable
	Alarm notification	Email snapshot notification, FTP snapshot upload, event record to TF card
	Protocol	TCP/IP, HTTP, TCP, UDP, ARP, SMTP, FTP, DHCP, DNS, DDNS, NTP, UPNP, RTSP, ONVIF, P2P
	Local Storage	Supporting the TF card of a capacity up to 32G
	Network Interface	10Base-T/100Base-TX Ethernet Interface
		Wi-Fi 802.11 b/g/n wireless network
Pan & Tilt	Motor	Built-in motor
	Rotation Angle	**Horizontal**: 355º. **Vertical**: 120º.
	Preset	8
Working Environment	Power Supply	DC5V 2A
	Operating temperature	-10 ºC ~ 50 ºC
	Operating humidity	10% ~ 80%
	Dimension	**Item size**: 145x110x125mm (L*W*H)
		Package size: 170x170x170mm (L*W*H)
	Weight	**N.W.**: 330g
		G.W.: 690g

1.5 Device appearance

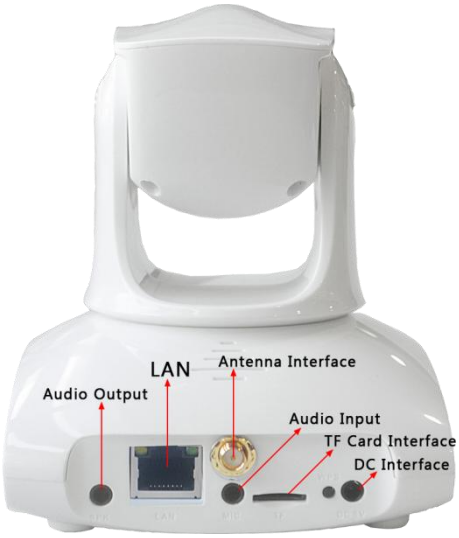
- **Device appearance**



- **Dimensioned Drawing**



1.6 Connection Terminal



Power interface: It is connected to the power adapter. The voltage of the power supply for ZKPT531 is **DC 5V** and the current is not lower than **2A**. Do not use other power supplies; otherwise, the camera may be damaged.

Network interface: It is a 10/100M self-sensing Ethernet interface, through which the **IP Camera** can be connected to various network devices, such as switches, routers, or hubs. When the camera is connected to a 10 Mbps network, the orange indicator of the network interface is constantly on. When the camera is connected to a 100 Mbps network, the green indicator of the network interface is also on.

TF card connector: It supports the 32G TF card.

Audio Input Interface (MIC): connect to external audio acquisition (e.g. MIC) for sound acquisition as detailed in WEB Server User Manual.

Audio Output Interface (SPK): connect to audio player (e.g. active speaker) for sound broadcasting.

1.7 Usage Instructions

1. Open the package and check whether all the accessories are available.

2. Use the network cable to connect the camera to a computer.

3. If the IP address of your computer and the IP address of the camera are on different network segments, change the IP address of your computer (for example, change the IP address to 192.168.1.115) so that the two IP addresses are in the same network segment. **(Note**: By default, the IP address of the camera is 192.168.1.88.)

4. Use a client software or browser to access the camera and check whether the video is displayed normally.

5. Adjust video parameters, such as the code stream.

6. Modify the network parameters of the camera and then restart the camera.

7. Repeat step 3.

8. Again, use a client software or browser to access the camera and check the video until the video is displayed normally.

9. Install the camera and adjust the angle of the lens to obtain an appropriate monitoring area.

10. Use a client software or browser to access the camera and start video surveillance.

2 Installing the Camera and Configuring the Network Environment

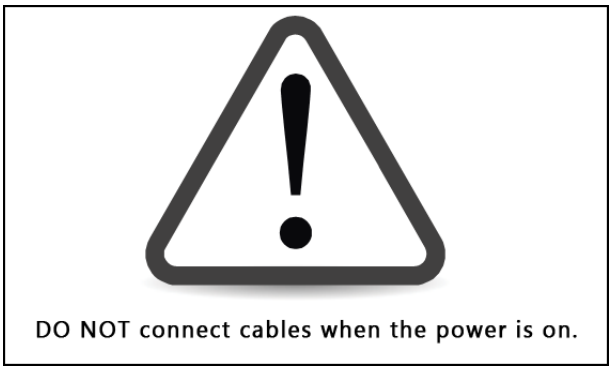
2.1 Installing the Hardware

- **Precautions**

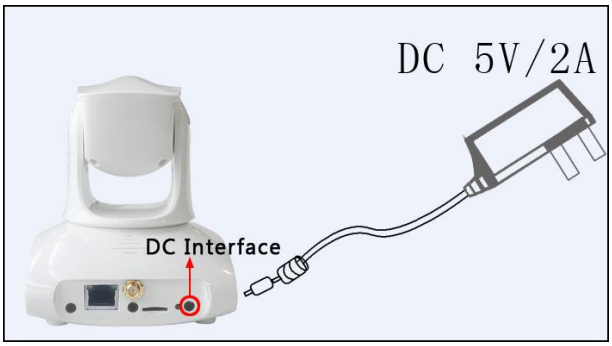
1. Read the installation guide of the product before installing the camera.

2. Check the package against the packing list to see whether accessories are complete. If any accessory is missing, contact the distributor in time.

3. Connect cables when the camera is disconnected from the power supply. If the camera cannot run normally, shut down the power supply and check the camera.



Notice: Connecting cables when the power is on may seriously damage the camera. Warranty is not granted for damages of the camera caused by this type of operations.



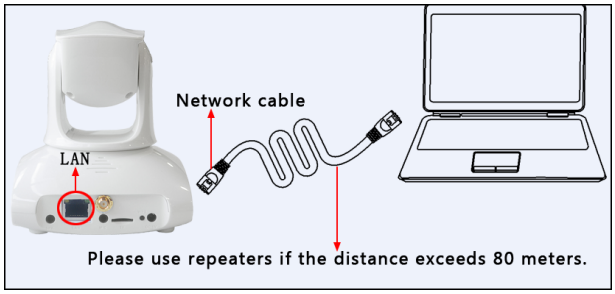
4. Use only the power supply (**DC 5 V**, rated current >= **2 A**) delivered with the camera. If the voltage is too high or too low or if the AC power is used, the camera may fail to run properly.

5. If the distance between the power supply and the camera is too large, use a standard power cable for connection and consider the voltage drop due to the long transmission distance.

6. Read descriptions about connection terminals and connect cables in strict compliance with definitions of interfaces. Warranty is not granted for damages of the camera due to non-conformance to these

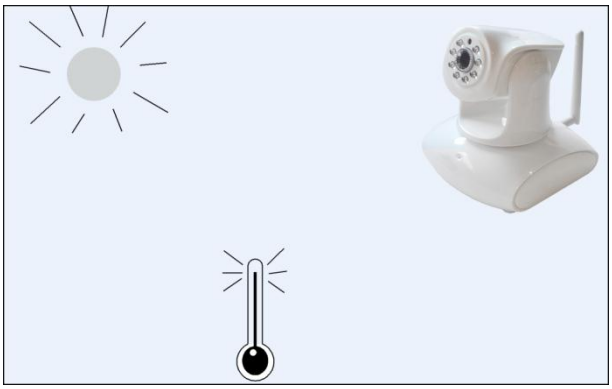
descriptions.

7. If the communication distance between the camera and the directly connected access device exceeds 80 meters, install a relay device in between to prevent signal attenuation.



8. Use the camera under the following working conditions:

Operating temperature: -10 ºC ~50 ºC. **Operating humidity**: 10% ~80%.



9. Keep the lens clean. If the lens is too dirty, use a tidy and soft cloth to clean the lens.

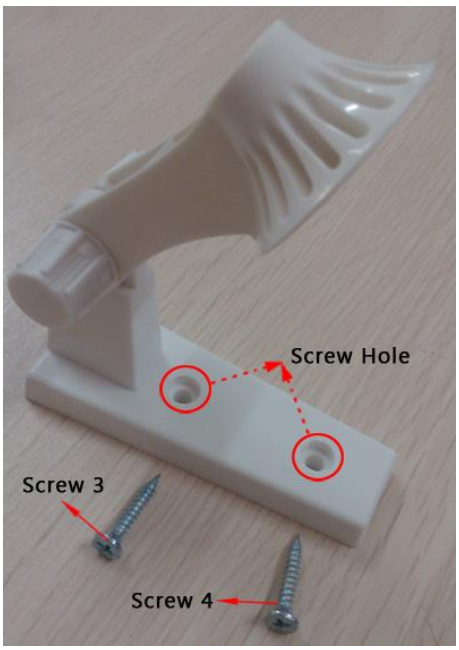
10. Do not point the camera against an object emitting strong light for a long time. Otherwise, the image sensor of the camera may malfunction, which leads to absence or distortion of images.

☺**Tips**: The product is applicable only to indoor installation. Do not install the camera outdoors; otherwise, the warranty is not granted.

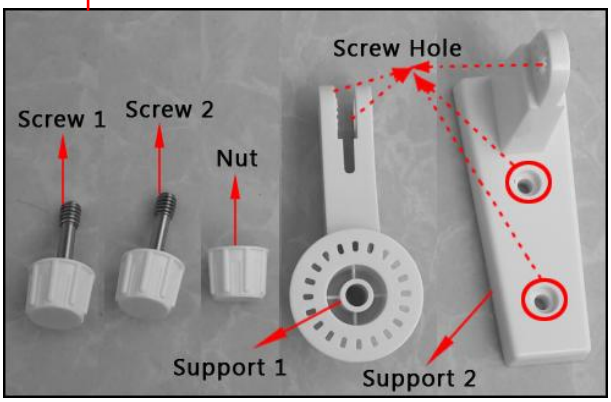
- **Instruction Chart**

1. Install "Support"

(2) The Connected "Support" Figure



(1) List of "Support"



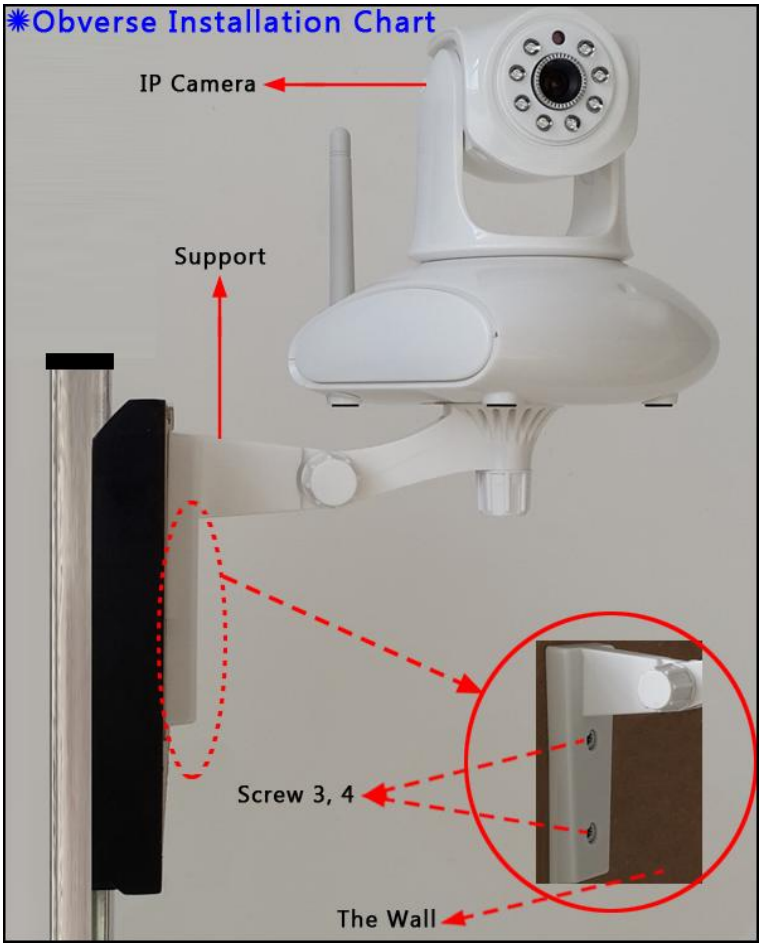
2. Connecting "Support" to "IP Camera"

(1): Aim at **Screw Hole**, and make the "**Support**" close to the "**IP Camera**".

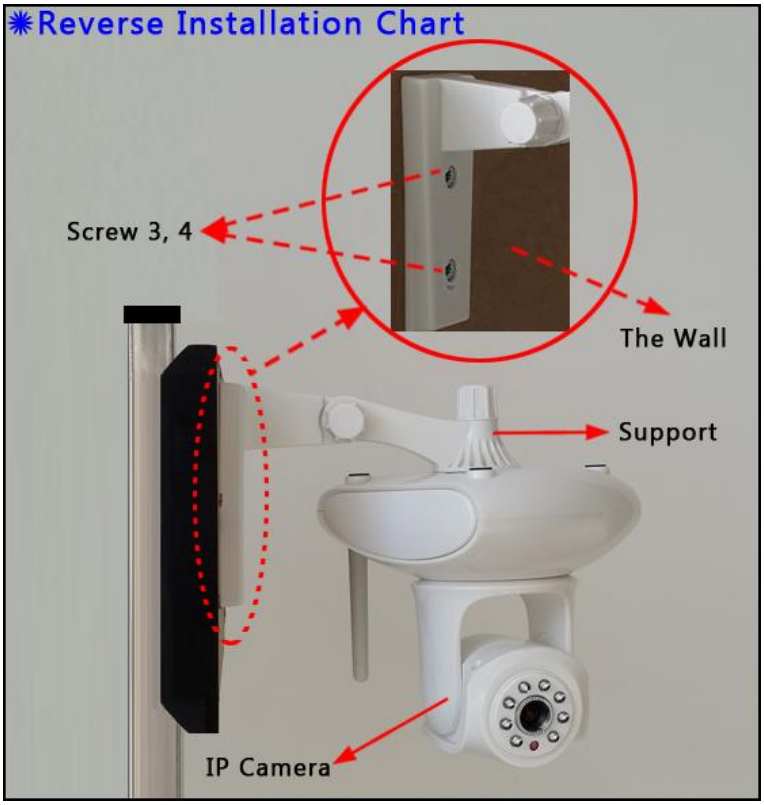
(2): Screw in the **Screw 2**, and make the "**IP Camera**" fix to the "**Support**".

3. Wall mounting or Top mounting "IP Camera"

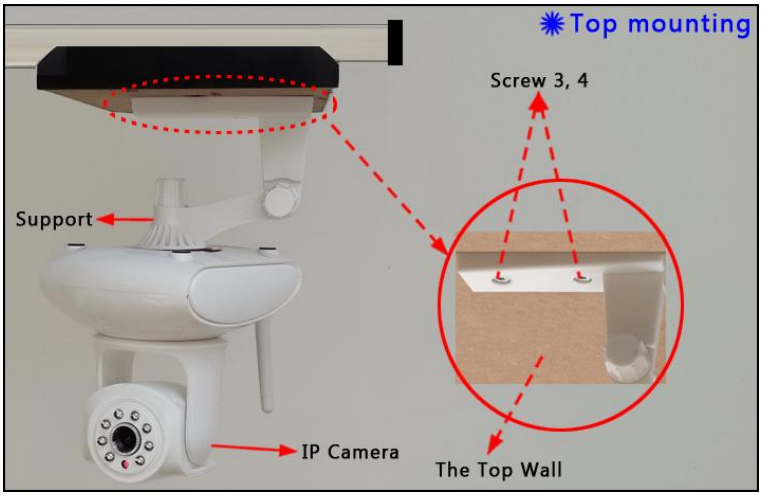
- **Wall mounting --> Obverse Installation Chart**



- **Wall mounting --> Reverse Installation Chart**



➢ **Top mounting --> Installation Chart**



2.2 Connecting the Camera to a Network

The camera can be connected to a network in two ways. The first way is to use a network cable to connect the camera to a network. The second way is to connect the camera to a wireless network.

- **Using a network cable to connect the camera to network**

1. Connect the network cable delivered with the camera to connect the camera to a network or directly to a computer.

2. Connect the camera to the power supply.

3. Assume that the network connection is normal. When the camera is connected to a 10 Mbps network, the orange indicator of the network interface is constantly on. When the camera is connected to a 100 Mbps network, the green indicator of the network interface is also on. By now, the physical connection is completed.

4. On the computer, choose **Start > All Programs --> Accessories > Command Prompt**. At the command, run the **Ping** command to connect the IP address of the camera, for example, enter the command ping 192.168.1.88. If "Request timed out" is not returned, the network connection with the camera is set up successfully.

✍ **Note**: **(1)** The default **IP address** is "192.168.1.88". The default **Http por**t is "80". To change the IP address or port, see the section "Network Setup" in the ***Web Surveillance User Manual***, which is available on the disk delivered with the camera. **(2)** If the equipment and the computer are in different network segment, see the section "How to Access the Device on the Internet" in the ***Web Surveillance User Manual***, which is available on the disk delivered with the camera.

- **Connecting the camera to a wireless network**

Before starting the wireless network, you must first use the network cable to connect the camera to the network. After you access the camera by using the browser, choose **Network Setup > Wireless Network Setup** and follow the related operation procedure to configure the wireless network connection.

1. Connect the network cable delivered with the camera to connect the camera to a network or directly to a computer.

2. Connect the camera to the power supply.

3. Use the browser to access the camera. Choose **Network Setup > Wireless Network Setup** to configure the wireless network connection.

4. Disconnect the network cable and restart the camera. The wireless connection is started next time you access the camera.

Note: For details about configuration of the wireless connection, see the section "Network Setup" in the ***Web Surveillance User Manual***, which is available on the disk delivered with the camera.

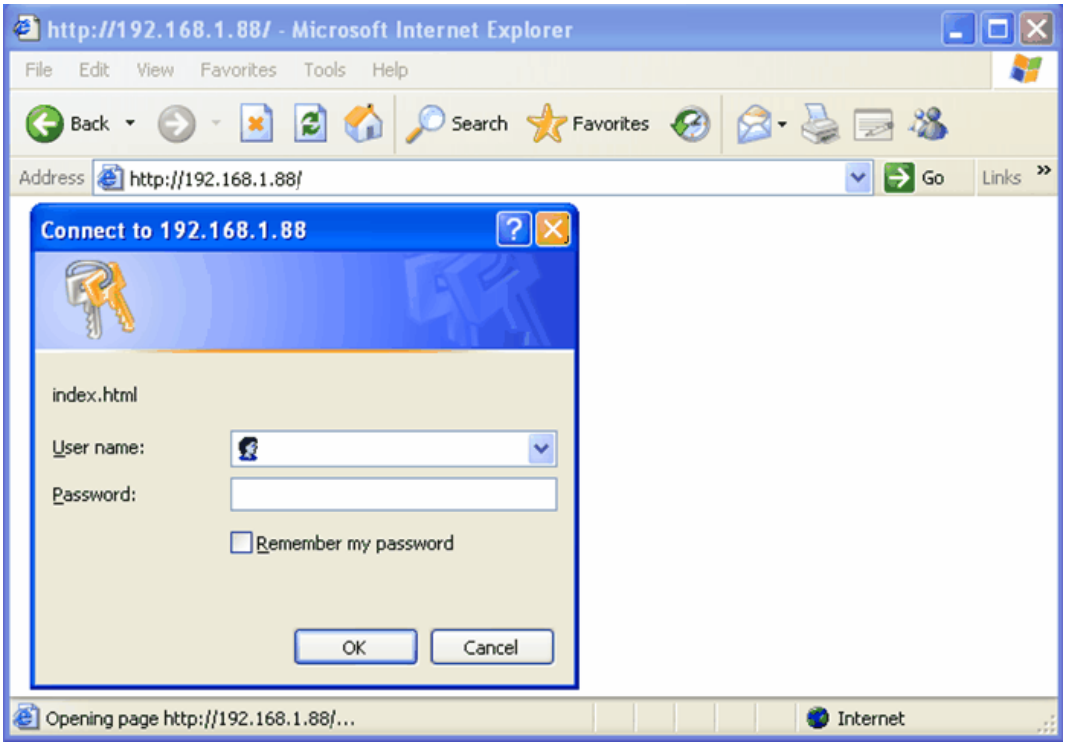
3 Accessing the Camera

You can access the camera by using a web browser, RTSP player, mobile device, or our company's network video surveillance software.

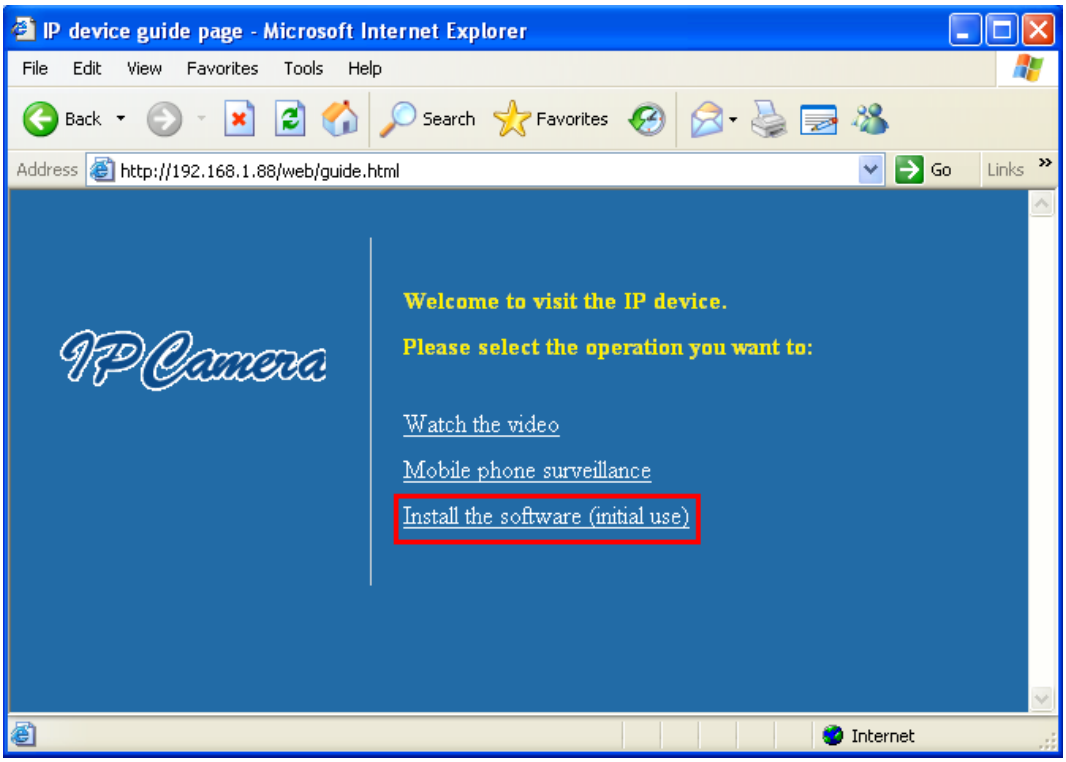
✍ **Note**: Before accessing the **IP Camera**, connect the camera to the network and power supply. Then, check whether the network interface indicator is in normal status to ensure that the network connection is normal.

3.1 Using a Web Browser

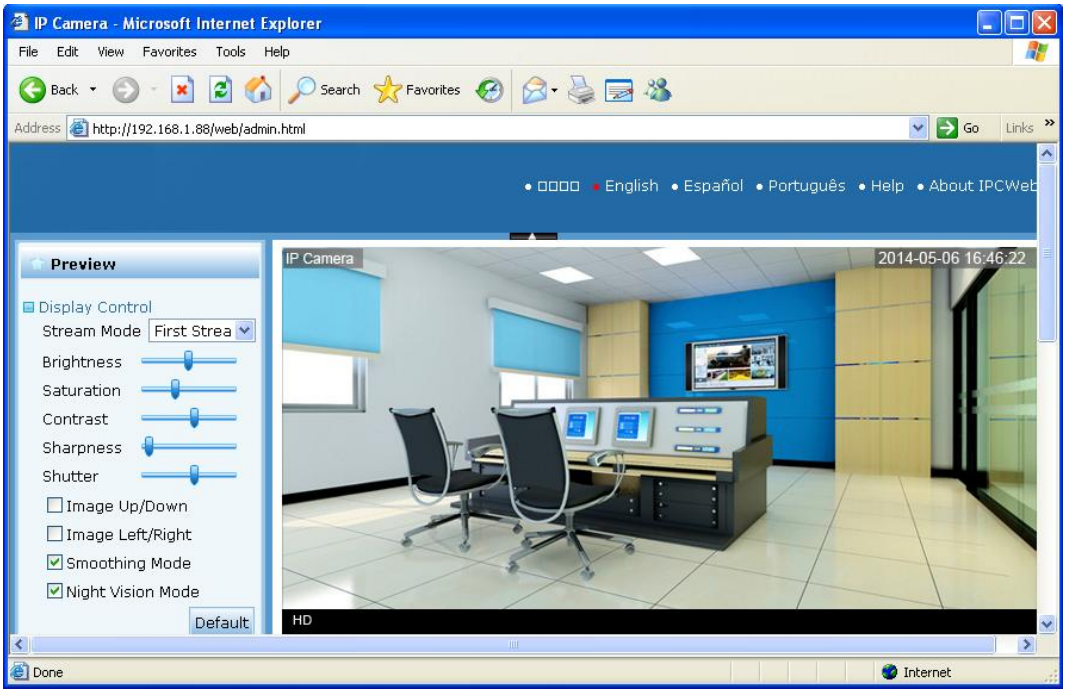
1. Start the browser. Enter the dynamic domain name or IP address (for example, http://192.168.1.88) in the address bar, and press Enter. The following login interface is displayed.



2. Enter the **User name** and **Password**. (In initial state, both the **User name** and **Password** are "admin".) Click OK button, then the following wizard is displayed.


IP device guide page - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back Search Favorites
Address http://192.168.1.88/web/guide.html
Go Links
IP Camera
Welcome to visit the IP device.
Please select the operation you want to:
Watch the video
Mobile phone surveillance
Install the software (initial use)
Internet

3. Click **Watch the Video** to enter the preview interface where you can start video surveillance.

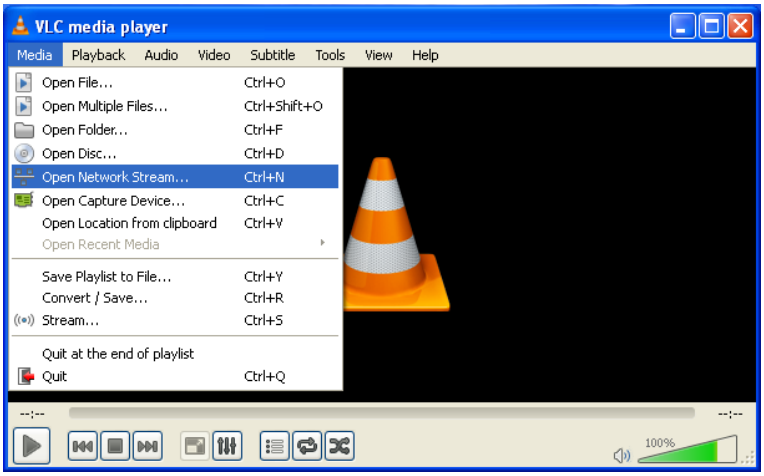


Note: If you use a browser to access the camera for the first time, you need to download the ActiveX. (To download the ActiveX, click **Install the Software (initial use)**, and follow instructions displayed on the ActiveX download window to download and install the software.) For details about how to use a browser for video surveillance, see the ***Web Surveillance User Manual***, which is available on the disk delivered with the camera.

3.2 Using the RTSP Player

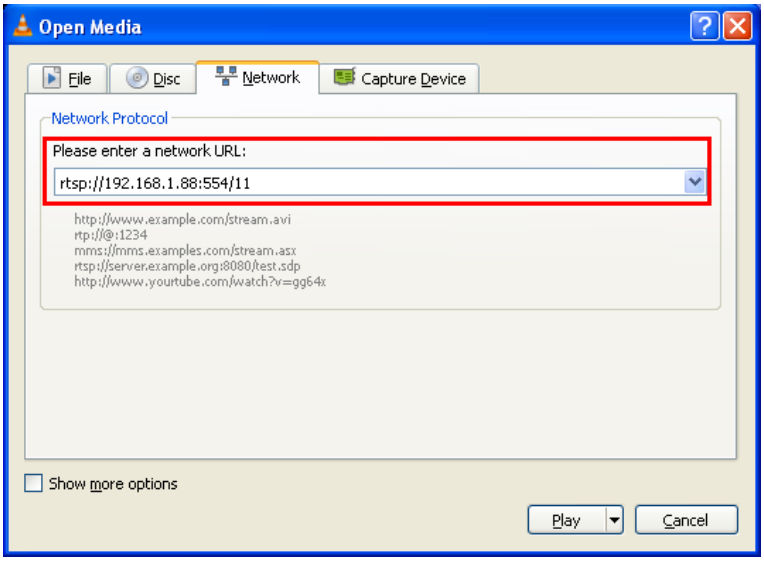
1. Download and install an **RTSP**-enabled player, such as the **VLC media player**.

2. Start the player and choose **Media > Open Network Stream**. A URL input interface is displayed.

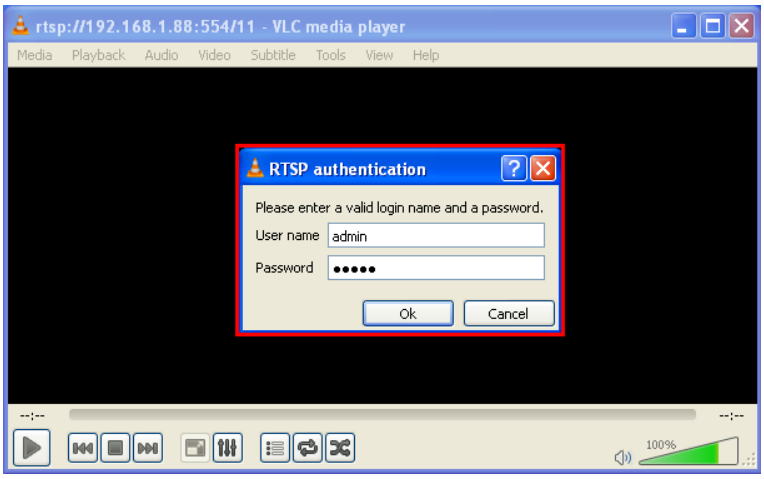


3. Enter the network URL by using the format "rtsp://<IP address>:<RTSP Port>/<Stream code>".

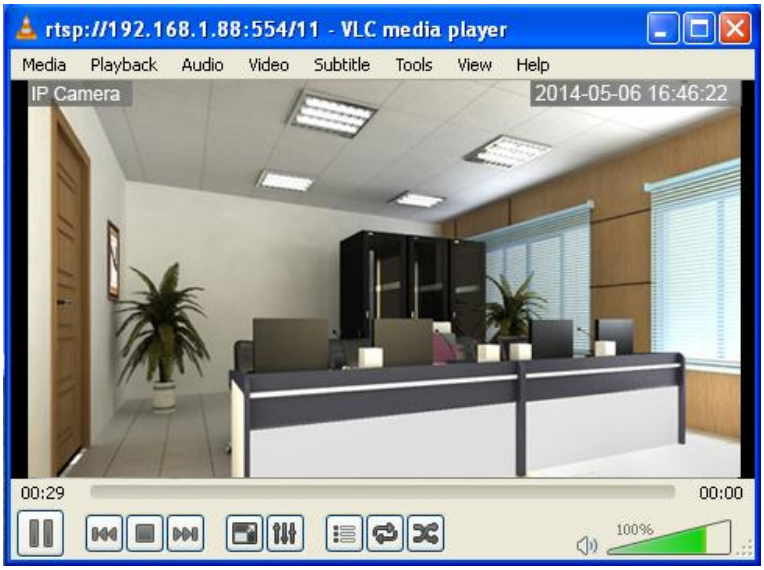
For the network ULR shown in the following figure, "192.168.1.88" is the **IP address**, "554" is the **RTSP Port**, and "11" is the **Stream Code**.



4. Click [**Play**]. **Note**: If the **RTSP** authentication is enabled on the camera, the **RTSP Authentication** dialog box is displayed. Enter the **User name** and **Password**, as shown in the following figure. (By default, both the **User name** and **Password** are "admin".)



5. After **RTSP authentication** is passed, the player plays the real-time videos collected by the camera.



Note:

(1) The **RTSP Port** of the camera is "554" by default. To change the default **RSTP Port**, see the section "**Network Setup**" in the ***Web Surveillance User Manual***, which is available on the disk delivered with the camera.

(2) To learn how to use the **RTSP** player for video surveillance, see the section "**How to Use RTSP-Enabled Player for Video Surveillance**" in the ***Web Surveillance User Manual***, which is available on the disk delivered with the camera.

3.3 Using Mobile Devices

Note:

(1) For the **UID** of a device, see the label on the back of the device.

(2) After successful connecting the device to the network, you can add the device in the **ZKiVision (Mobile surveillance)**

software in **UID** mode. After the device is added successfully, you can receive and browse surveillance videos on their mobile phones in real time by connecting their mobile phones to the front-end surveillance devices via a mobile wireless network. (**Tips:** In an LAN, you can use any set of digits or letters to replace a **UID**; however, in a WAN, you must enter a correct UID provided by your service provider.)

The following takes adding a device via an IP address as an example to illustrate how to access a device by using the **ZKiVision** (mobile phone) monitoring software:

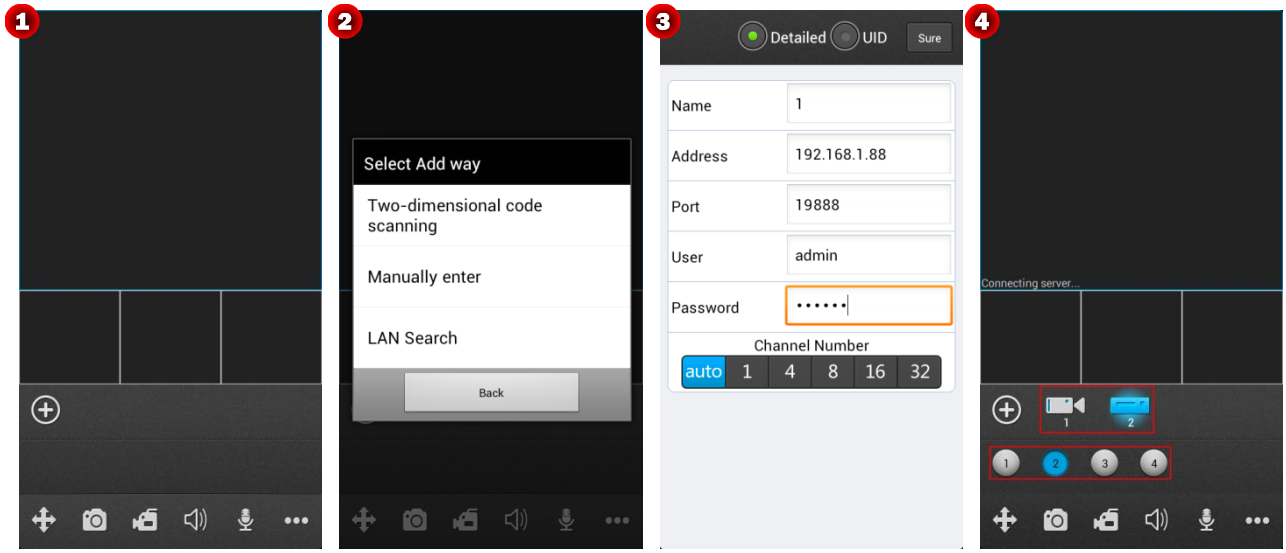
1. Download and install the **ZKiVision** (mobile phone) monitoring software **ZKiVision Pro 2.0.apk** or **ZKiVision Pro 2.0.ipa** from Google Play or Apple Store on your mobile phone.

2. Click the icon **ZKiVision** on the mobile device to start the video player. **Figure 1** shows the initial interface of the software.

3. Click . The **Select Add way** dialog box (see **Figure 2**). Select an option in the dialog box. The **Add Device** screen will display (see **Figure 3**).

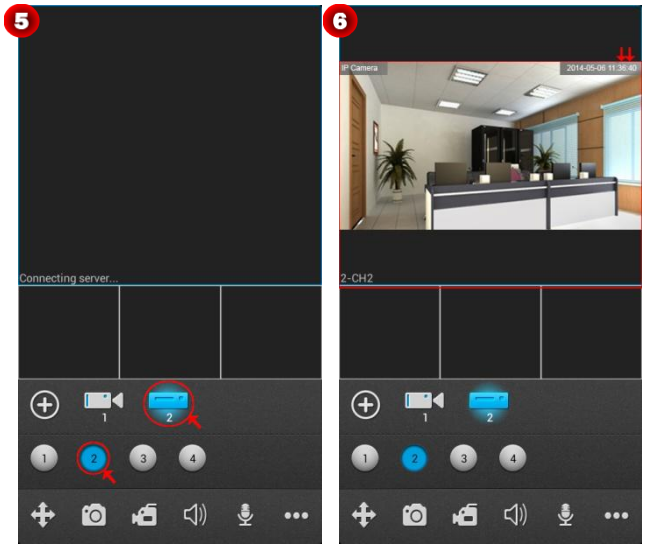
4. Specify device login information, including **Name** (device name), **Address** (IP address of the device), **Port** (P2P port of the device, which is port **19888** by default), **User** (***admin*** by default), and **Password** (***123456*** by default).

5. Click **Sure** button to save the configuration and return to the **View Video** screen, which displays the added device and its channels (see **Figure 4**).



6. Select a device by clicking the device icon on the **View Video** screen (the selected device is highlighted in blue; see **Figure 5**). The software checks and shows the number of channels of the device automatically.

7. Select a channel number (see **Figure 5**), which is then highlighted in blue. The **View Video** screen shows the surveillance video of the channel in real time (see **Figure 6**). To close the video, click the corresponding channel number (in blue)



Note:

(1) The operating system of the mobile device must be **Android** or **iOS**.

(2) Viewing videos will use data. For details about charges, consult your network service provider.

(3) Open the mobile phone monitoring software, and add a **P2P**-capable device by using a **UID** for remote view and monitoring.

(4) Add a device by scanning a QR code, searching in an LAN, or manually entering a UID; see the ***ZKiVision User Manual (Mobile Phone)***, which is available on the disk delivered with the camera.

3.4 Using Video Surveillance Software

ZKiVision Client Software is our company's free video surveillance software, which can help manage and monitor multiple devices in a real-time manner. Install the software in the supplied CD, and add devices to the software. Then the real-time monitoring can be started. If needed to learn about how to use the video surveillance software, refer to *ZKiVision Client Software User Manual* in the CD.